

# Cole-Parmer®

## OPERATING MANUAL

### **Cole-Parmer Orbital Shaker w/ Digital Timer, 8in**

SSH-200-SS-15D  
(59998-62)



SSH-200-SS-15D

Rev 03/2023

Cole-Parmer Orbital Shaker  
w/ Digital Timer, 8in  
SSH-200-SS-15D  
Operating Manual

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SAFETY INSTRUCTIONS

Please read these instructions thoroughly to familiarize yourself with the operation of the SSH-200-SS-15D before attempting to run it.

The buyer is responsible for ensuring that users are properly trained, that they are aware of all of the information and instructions in this document, and that they are aware of the potential risks of operating the apparatus. The manufacturer will not be responsible for any damage to people and/or property caused by noncompliance with any instructions in this manual.

**NOTE:** These instructions are intended only as a guide for general operation of this device and should not be used in place of test protocol. Refer to current ATSM standards for complete and detailed test procedures.

**ALWAYS** ensure the motor and other electrical components are properly configured for your intended use and available power source. Sieve shaker runs on 115V,60Hz 1/4hp motor. Motor is NOT explosion-proof.

**ALWAYS** use a properly-wired, three-pronged plug, or otherwise ground the machine. Make sure the cord is located where no one will trip or get tangled in it.

**ALWAYS** check electrical wiring for loose connections and for pinched or frayed wiring.

**ALWAYS** disconnect and lock out power supply when the machine is not in use, especially before performing maintenance and repairs.

**⚠ WARNING:** This machine operates on an electric current. Improper operation could result in electric shock, electrocution, or an explosion! Motors are NOT explosion-proof!

**⚠ WARNING:** Do not wear loose clothing that might be caught in the machine and keep all body parts away from moving parts of the machine. ALWAYS wear safety glasses, hearing protection, and other personal protective equipment while operating, maintaining, or repairing this machine.

**⚠ WARNING:** DO NOT operate the machine without having all guards and covers in place.

**⚠ WARNING:** DO NOT perform tasks on the machine other than those for which it was designed. Only use the machine in the manner for which it was intended, as described in this instruction manual.

**WARNING**

 **Moving Parts**  
Can Crush and Cut.  
Operate Carefully

**CAUTION**

 Wear safety glasses when using equipment.

## 1.0 UNPACKING & SETUP

**NOTE: DO NOT plug in or otherwise connect the SSH-200-SS-15D to a power source until this initial inspection is complete. Damage claims MUST be filed with shipping carrier within ten days. The SSH-200-SS-15D is ready to operate as shipped.**

1. The SSH-200-SS-15D weighs approximately 52lb (24kg). Use appropriate equipment and manpower to uncrate the Sieve Shaker. Wear safety glasses and work gloves.
2. Open the top of the carton and lift the SSH-200-SS-15D out by the stabilizer bar. If at all possible, **do not** cut away the carton since you will need it if the machine must be returned. If you do not have equipment for lifting the machine, you will have to cut away the carton. Set the unit on a solid, substantial surface, and inspect it for shipping damage and for loose or missing parts or documents.
3. Inspect the SSH-200-SS-15D for shipping damages. Damage claims should be noted on carrier's bill of lading before signing for acceptance. It is the recipient's responsibility to immediately file damage claims with the carrier.
4. Check that the unit is wired to match your power supply. The standard SSH-200-SS-15D comes with a 1/4hp, 115V, 60-cycle motor.
5. On the bottom of the unit are four small rubber feet. These may be removed to use the base holes for permanent mounting if desired. Use appropriately sized mounting screws and bolts 5/16in if you plan to secure the unit to the table. Turn the machine upright on the table.

## 2.0 OPERATING INSTRUCTIONS

Please read understand all safety and operating instructions for the Cole-Parmer Orbital Shaker w/ Digital Timer, 8in before putting it into service.

1. Make sure that the SSH-200-SS-15D is unplugged from the power supply before beginning operation.
2. Rotate EZ-Clamp knobs so buttons face inward. While holding the knobs, push both buttons in firmly and slide the cover up to the desired position. When you release the buttons, the cover assembly will remain in position, allowing insertion of the sieve stack.
3. Load your sieve stack onto the sieve platform of the SSH-200-SS-15D, ensuring it is centered on the platform.
4. Turn the EZ-Clamp knobs so buttons face inward, push the buttons, and slide the cover assembly down firmly on top of the sieve stack.
5. Tighten the knobs by turning them clockwise until the lid feels securely clamped. If the knobs "pop", they were turned too far. Simply retighten to secure the cover assembly on the stack.

6. Plug in the SSH-200-SS-15D after confirming your power supply is configured correctly and grounded properly. Set the timer and turn on the machine.

**NOTE:** The main device that the timer controls may be restricted to operating on a more limited electrical supply range. Check the device carefully to ensure compatibility with your electrical supply.

**NOTE: ALWAYS disconnect the unit after use.**

Current timer mode is indicated by the four red LEDs on the timer face:

- A = MMSS (99min:59sec x 1sec)
- B = HHMM (99hr:59min x 1min)
- C = SSSS (9999sec x 1sec)
- D = MMMM (9999min x 1min)

(H is for hours, M for minutes, and S for seconds.) To adjust the timer mode, press and hold both the up and down arrow keys at the same time until the display shows the mode. Once the mode letters are displayed, press either the up or down arrow key to change modes. Press "START"/"STOP" to accept new mode.

To set the run time, press either the up or down arrow key. The first digit on the right hand will flash in half-second intervals. Press either arrow key to adjust to the desired value. To enter the displayed digit and move to the next, press "START"/"STOP". Once the last digit on the left is entered, the timer is ready to start.

Press "START"/"STOP" to initiate the current run program. Once running, pressing "START"/"STOP" again will pause the timer with the current amount of time remaining on screen. When allowed to time-out, the timer beeps and displays "DONE". Press any key to continue. Setting and Mode values are saved automatically.

## 3.0 MAINTENANCE

Before performing maintenance or repairs on the Sieve Shaker, **ALWAYS** read and understand the safety, operating, and maintenance instructions. During the warranty period, please contact Cole-Parmer before performing any maintenance or repairs. See warranty information in Section 9.0

**Always** disconnect the SSH-200-SS-15D from its power before performing maintenance or repair. The SSH-200-SS-15D's motor has internal thermal protection which may cause it to restart automatically.

### 3.1 Cleaning the Unit

1. Clean the unit **AT LEAST** once a year. It is designed to give consistent results. Dirt can affect test results. An appropriate cleaning schedule for your unit depends on the frequency of use, exposure to dirt, and sample makeup.
2. Clean beneath the unit at least annually. Take care not to introduce cleaning agents into the timer or the motor. If a thorough cleaning is required, the motor and timer must first be removed. See steps 2 and 3 in Section 3.3.
3. To perform maintenance or repairs, or to inspect the internal parts of the SSH-200-SS-15D, place the unit on either of its sides or on its back as appropriate. Make sure to prop up the machine as necessary to avoid damage to the power cord or platform.

### 3.2 Drive Belt

1. Periodically check drive belt for wear, tension, and alignment. A worn, loose, tight, or misaligned drive belt can affect the operation of your SSH-200-SS-15D. The belt should be snug: neither too tight nor too loose. A snug fit assures longer life, less bearing wear, and quieter operation than a belt which is too tight. A loose belt may cause the unit to run too slowly or to slip. The drive belt should deflect 1/64 of the value of the space of the pulleys. The pulleys should be aligned to avoid excessive edge wear on the belt.
2. To adjust or replace the belt, lay the unit on its left side, making sure not to pinch the electrical cord. Loosen the four Motor Mounting Bolts (26) on the top of the outer case (see Section 7.0). Move the motor up or down to adjust tension in the drive belt. Use a straightedge to maintain pulley alignment. If you must adjust the belt past the end of the slots to get proper snugness, replace the belt. **NEVER** force or pry the belt over the pulley flanges.

### 3.3 Motor

1. Apply a few drops of oil to the motor and bearings at least once a year.
2. To remove the motor, lay the unit on back or left side so that it will fall away from other internal parts when the mounting bolts are removed. Remove the four motor mounting bolts on top of the outer case. As the motor loosens remove the drive belt. Remove the motor terminal cover plate, which is held with two screws, located where the power and timer cords enter the motor.

3. Disconnect the power and timer wire terminals, noting where each is attached, loosen the cord, and remove the wires from the motor terminal box. The motor is now completely free. Remove motor belt pulley by loosening the setscrew.
4. Have the motor cleaned or overhauled by a trained electric motor repair person. To install the motor, reverse the steps of the procedure described previously. Make sure that both pulleys are aligned and that the belt is properly tensioned.

### 3.4 Digital Timer

To remove the digital timer, disconnect power from the unit by unplugging the machine from the power source. Then disconnect the wiring harness connection from the motor and power supply by pulling connection apart, being careful not to disconnect sections (or wires) so they remain properly oriented to easily reconnect.

Loosen and remove the nuts from the back of the plastic box, this will now allow you to remove the timer out the front of the machine and the box from the inside of the machine.

### 3.5 Main Shaft

1. To remove the Main Shaft (1) and attached subunits, lay the unit on either side (but not on its back) and loosen the drive belt following the instructions in Section 3.2, and remove it. Loosen the four setscrews touching the Main Shaft: Main Shaft Pulley (11), Counterweight (10), Eccentric (9), and Main Shaft Collar (3). Remove the Yoke Bushing Shoulder Bolts (8). This frees the Main Shaft to be pushed to the right toward the front of the unit creating enough space to remove the Main Shaft Pulley (11), Counterweight (10), Eccentric (9), Eccentric Bearing (5), Yoke Bearing Collar (6), and Main Shaft Collar (4,) respectively.
2. The Main Shaft can be moved to the left (to the rear of the outer case) if only a few components on the right side are being serviced. Notice the spacing as each piece is removed. Inspect each disassembled piece for wear, especially the Main Shaft Bushing (2), Main Shaft (1), and Eccentric (9). Any signs of wear or egg-shaping warrant the part's replacement. Order replacement parts from by name and item number.

### 3.6 Reassembly of the Unit

To reassemble the unit, follow the above described sequence in reverse, taking caution to reestablish drive belt alignment and spacing of components. Use Section 7.0 as a guide.

## 4.0 TROUBLESHOOTING

### • Unit Fails to Operate:

First, establish that power is being delivered to the unit. The wall outlet should be tested with a meter or other device for evaluating current.

Check the Timer to make sure it is functioning properly.

Next, loosen the Motor Mounting Bolts and remove the Drive Belt.

If the motor still will not run, continue with the motor removal procedure described in Section 3.3. To gain access to the motor terminal cover plate, remove the plate and test for power cord continuity. If the power cord is not at fault, then repair or replace the motor.

### • Drive Shaft Binding is Evident:

Remove and inspect the bearings, bushings, and other components attached to the Main Shaft. To disassemble the drive shaft components, see the procedure outlined in Section 3.0. **Note belt alignment and component spacing for reassembly.**

### • Unit Operates but is Excessively Noisy:

Excessive noise may come from loose sieve retainer clamps, bolts, nuts, egg-shaping of bushings, or worn bearings. Always check for loose nuts, bolts, and clamps before disassembling the SSH-200-SS-15D's components. Replace the frame guide bushing (21) when the bushing makes a flopping sound.

## 5.0 SIEVING ACCURACY

Accurate sieving is achieved by applying a proper combination of equipment, including standard quality test sieves, and sieving technique.

The following suggestions will help improve test results:

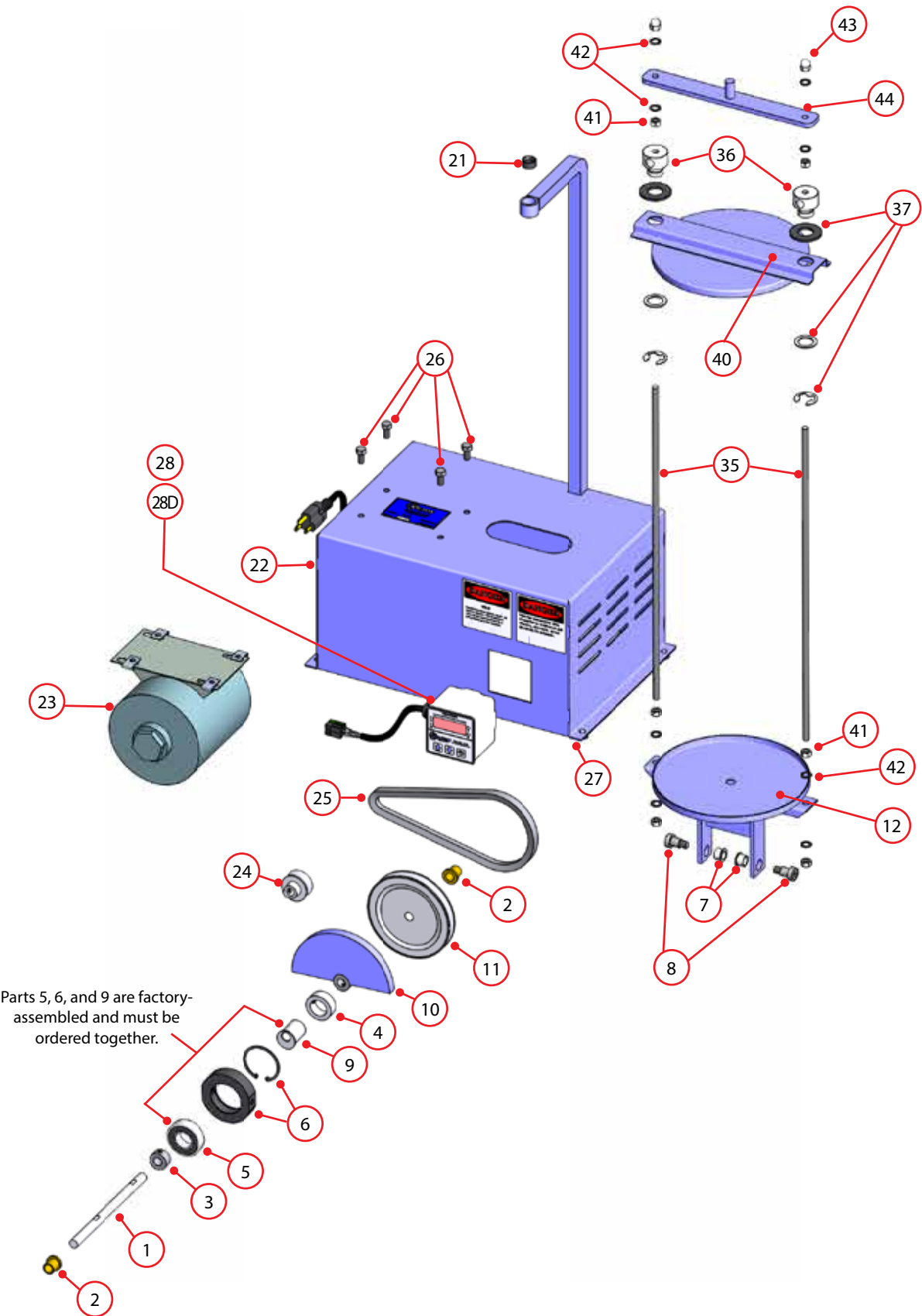
1. Determine suitable test times for each type of sample. One method is to shake each test sieve singly with a pan (by machine or by hand) for an additional minute following a test. If a significant percentage, say 1–2%, of the retained materials passes with the added sieving time, test time should be increased.
2. Use only sample types within the design range of the test apparatus. The SSH-200-SS-15D has an approximate design range of No.4–No.50 test sieve sizes, but acceptable results may be possible over a wider range depending on sample specific gravity, particle shape, and fraction of sample that is outside the normal design range.

3. **DO NOT** overload test sieves. Maximum loading at completion of sieving is about 132cc on individual 8in (203mm) test sieves in the design range. If the loading is greater, either reduce the starting sample size or insert an extra intermediate-height test sieve to reduce loading on the critical test sieve.
4. Check test sieves periodically to ensure that the wire cloth is in accordance with ASTM E11 standards.

## 6.0 SPECIFICATIONS

Sieve Frame Diameter	8in (203mm) & 200mm
Particle Size Range	No.4—No.200 (4.75mm—75µm)
Motion/Agitation	Orbital
Sieve Capacity with Pan	Full Height: (6) 8in/200mm Sieves Half Height: (12) 8in/200mm Sieves
Timing Capacity	Up to 99 Minutes
Mounting Capability	Yes
Electrical	115V / 60Hz
Product Dimensions	17 x 11 x 30in (432 x 279 x 762mm), WxDxH
Estimated Shipping Weight	60.0lb (27.22kg)

7.0 PARTS DIAGRAM



## 8.0 REPLACEMENT PARTS

Item No.	Description	No. Req.
<b>MAIN SHAFT PARTS</b>		
1	Main Shaft	1
2	Main Shaft Bushing	2
3	Main Shaft Collar	1
4	Eccentric Locking Collar	1
5	Eccentric Bearing	1
6	Yoke Bearing Collar with Snap Ring	1
7	Yoke Bushing	2
8	Yoke Bushing Shoulder Bolt	2
9	Eccentric	1
10	Counterweight	1
11	Main Shaft Pulley for 60Hz	1
<b>SIEVE CLAMPING &amp; HOLDING PARTS</b>		
12	Sieve Platform with Yoke	1
21	Sieve Retainer Frame Guide Bushing	1
35	Sieve Retaining Rod	2
36	EZ-Clamp Knob, Push Button, & Spring Assembly	2
37	Rubber Washer, Plastic Washer, & Retaining Ring	2
40	Sieve Cover Clamping Assembly	1
41	Sieve Retaining Frame Hex Nut	6
42	Sieve Retaining Frame Washer	8
43	Sieve Retaining Frame Acorn Nut	2
44	Sieve Retaining Frame	1
<b>ELECTRIC &amp; DRIVER PARTS</b>		
23	Motor for 115V,60Hz	1
24	Motor Pulley for 115V,60Hz	1
25	Drive Belt for 115V,60Hz	1
26	Motor Mounting Bolts with Clip Nut	4
27	Rubber Feet	4
28D	Digital Timer for SSH-200-SS-15DD	1
22	Outer Case with Stabilizer Bar	1



## 9.0 WARRANTY

Each Cole-Parmer Sieve Shaker is warranted to be free of defects in materials and workmanship for a period of twelve (12) months from date of shipment, and any claim must be submitted within such period.

This warranty excludes damage caused in whole or in part by (i) neglect, abuse, misuse, fault or negligence of or by Purchaser (ii) normal wear and tear, (iii) use of the product for other than its intended purpose or other than under normal operating conditions, (iv) alterations or modifications, (v) repairs made or attempted by anyone other than Cole-Parmer, (vi) any failure to comply with installation, maintenance, or operating instructions, (vii) lightning strikes, floods, electrical supply irregularities, (viii) improper storage and handling, (ix) use of the product in combination with equipment or software not supplied by Cole-Parmer and (x) other occurrences beyond Cole-Parmer's control. This warranty also excludes consumables, products that have been opened or attempted to be opened by the Purchaser during the warranty period and products that have not been cleaned and decontaminated by the Purchaser.

Purchaser shall promptly notify Seller (and in any event, during the warranty period) in writing upon the discovery of any defect, which notice shall include the product model and serial number (if applicable) and details of the warranty claim. If Cole-Parmer determines in its sole discretion that the product is defective and is covered by this warranty (after an inspection of an allegedly defective product if such an inspection is requested by Cole-Parmer), Cole-Parmer's sole obligation, and Purchaser's sole and exclusive remedy, is the repair or replacement of the product by Cole-Parmer, in Cole-Parmer's discretion. Purchaser specifically acknowledges that Cole-Parmer's price for the product is based upon the limitations of Cole-Parmer's liability as set forth herein. Products may not be returned to Cole-Parmer for warranty repair or replacement without obtaining a return authorization number. Freight charges for shipping the defective product to Cole-Parmer will be responsibility of Purchaser. All replaced parts shall become the property of Cole-Parmer and no repair or replacement will extend the original warranty period.

If Cole-Parmer determines that a product for which Purchaser has requested a warranty remedy is not covered by the warranty hereunder, Purchaser shall pay or reimburse Cole-Parmer for all costs of investigating and responding to such request at Cole-Parmer's then prevailing time and materials rates. If Cole-Parmer provides repair services or replacement parts that are not covered by this warranty, Purchaser shall pay Cole-Parmer therefor at Cole-Parmer's then prevailing time and materials rates.

# Cole-Parmer®

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## 10.0 REPAIR

Should the Cole-Parmer Sieve Shaker require service or repair while under warranty, please contact Cole-Parmer Customer Service. A Return Authorization Number will be issued, and customer will be advised on proper packing and method of shipment.

Customer Service:

Toll Free: 1.800.323.4340

Local Phone: 1.847.549.7600

Email: [sales@coleparmer.com](mailto:sales@coleparmer.com)

Shipping address:

Attention: SR# or RA#

Cole-Parmer

625 East Bunker Ct

Vernon Hills, IL 60061

(Please include SR Number or RA Number on shipping label)

For any other technical inquiries or out-of-warranty repair requests, please contact the Cole-Parmer Technical Support Department at 1.800.323.4340, or email [Techinfo@coleparmer.com](mailto:Techinfo@coleparmer.com)



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